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JUN 1992**(54) INK-JET HEAD AND MANUFACTURE THEREOF**

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**PURPOSE:** To obtain an ink-jet head having high density and capable of being integrated to a high degree by constituting a flow path with rows in parallel at certain pitches and forming at least two or more of flow path rows.

**CONSTITUTION:** Grooves are formed to both upper and lower surfaces in a central piezoelectric substrate 1. Grooves are shaped to one surfaces of upper and lower piezoelectric substrates 2, and mated with the grooves of the central piezoelectric substrate, thus forming ink flow paths 5. Consequently, a head having upper and lower two rows of the ink flow paths is organized. Ink is fed from an ink supply port 4, and discharged from nozzle holes 7 through the flow paths 5. Electrodes are formed to the inwalls of the flow paths 5, and connected to electrodes 3 shaped onto the central piezoelectric plate. The electrodes 3 are connected to a driver through a flexible printed circuit 8. When an electric field vertical in the direction of polarization is generated by a circuit composed in this manner, sidewalls are deformed, pressure in the flow paths is increased, and ink droplets can be ejected from nozzles. The flow paths in even numbers and the flow paths in odd numbers are driven alternately, thus realizing printing.

